Meeting on Regional Arsenic Sites
May 23, 2001 - Fairmont, MT
10:00 - 12:30 / 2:00 - 3:30

Attendees:
Diana Hammer
Ron Bertram
Sara Weinstock-Sparks
Chris Weis
John Wardell
Scott Brown
Bob Fox
Henry Elsen
Charlie Coleman
Ted Fellman
Wendy Thomi
Via Conference Phone:
Bonnie LaVelle
Rebecca Thomas
Paula Schmittdiel
Bert Garcia
Jim Christianson

This summary, albeit a little sketchy, provides in written form some of the things we talked about on May 23rd.

Please try to look it over before the June 1 meeting at 10:00 and come to the meeting with ideas about which items you would like to focus in on at this point. We will build the agenda at the start of the meeting.

Also, please come prepared to correct, add or delete information about one of your sites. We want to get this information as accurate and complete as possible so that it can help us to see the whole picture, and help to solve some of the problems we may be having internally or externally.

Agenda

1. National / Regional Arsenic Policy and Standards
   - Max Dodson's discussion with Henry Falk on May 23, 2001
   - role of ATSDR in setting action levels or risk management levels

2. Site Spedific / Region-wide issues
   - Risk levels vs. action levels
   - Risk assessment vs. risk management

3. Status of Science about Arsenic exposure
   - health effects
   - acute exposure
   - pica child behavior and exposure
   - chronic, long term effects of arsenic
   - exposure units (hot spots, attics, basements)

Objectives

- ❑ 1. To gain a common understanding of action levels at various sites.
- ❑ 2. Make a list of differences between ATSDR and EPA including the basis for those differences.
- ❑ 3. Discuss who carries responsibility fo dealing with inconsistencies and relationship with ATSDR.
- ❑ 4. Make recommendations for the responsible party.
- ❑ 5. Discuss whether we need a spokesman for Arsenic issues right now and if so, who should it be?
- ❑ 6. Discuss how we approach an acute / pica behavior scenario regionally.
- ❑ 7. Discuss how we approach the attic and basement scenarios regionally.

Comparison of risk levels and action levels at EPA Superfund Sites

	Res.	Comm. / Ind.	Rec.	Ag.	Human Bio-monitoring for As	NOTES
VB-I70	250 (1×10^{-4}) risk assessment just completed. Final action decision has not been made. Do not quote this level as an action level 400-900 is range requiring time critical removal action.				yes. < 20 people (+1500 people at Globeville with no elevated As in 9 years)	10-4 risk level. The 95% UCL used as the exposure point concentration. Site specific RBA = 40% >120 ppm theoretical acute risk for any single sample based on soil pica scenario Removal action levels based on subchronic non-cancer risk to children. Subchronic reference dose = 0.006 mg/kg/day
Cal Gulch	340					
Eureka						Action level is Pb driven.
Butte	250 (5.2 x10-5)	500	1,000		yes. < 40 people in Walkerville tested for As and Pb	12% bioavailability
Anaconda	250 (8x10-5)	500	1,000 (4x10-5) dirt-bike	1,000 (1x10-4)	yes	
E. Helena						Action level is Pb driven.

	Res.	Comm. / Ind.	Rec.	Ag.	Human Bio-monitoring for As	NOTES
Clark Fork River			680 (jogger)	0	yes	
	150		1600 (swimmer)	620		
Basin	120					50% default on bioavailability
Stockton						
Murray		1200				(95% UCL)

Consistencies
- differencess driven by bioavailability and site specific soil/dust ratio
- estimates of risk look at chronic risk, not acute
- numbers are at the lower end of the risk range.

Inconsistencies
- at Anaconda and Butte we clean up hot spots but not at other sites.

Site Specific / Regional Issues

1. Risk Management
2. Local vs. EPA decision (Arrow Stone Park)
3. Cleanup of heavy metals in attics and basements

Clark Fork River - Arrow Stone Park

- 1600 - 600 ppm risk based concentration for recreation
- **100 - 300 range for ...**
- 851 at Grant Kohrs Ranch - 95 ppm As
- Tressle Area - 1 hot spot - average 300
- EPA thinks ATDR health consult is inaccurate
- Need to address Pica dialogue at National level
- Need to talk with County Commissioners
- Community education important

Questions

CFR-Arrow Stone Park

How many samples have we taken in Arrow Stone Park? What were the results?

What relation is there between the exposure investigation done at Mill Creek and that done at Deer Lodge?

Butte - Walkerville

How do we make the decision to clean up the attics or not?

VB-I70

What is the status of the ATSDR/EPA study of pica behavior? It is an ATSDR study. EPA is willing to contribute funding if the study is designed to meet the objectives we think are importatnt.

ATSDR did not plan enough time for the procurement process so they recently decided to postpone the study until summer of 2002.

What were sampling intervals at VB-I70 at homes?
30 individual surface soil samples were collected at each yard and composited into 3 samples. Each composite was 10 samples spaced over the entire yard. This gave us 3 estamtes of the yard mean from which we calculted the 95UCL.

At parks?

Individual grab samples evenly spaced over the park area. The number depended on the size of the park.

Documenting site-specific differences between EPA and ATSDR		
SITE	**ATSDR**	**EPA**
VB-70	- 60% bioavailability - 15 ppm is safe for preventing acute exposure Estimate pica exposure at 3-5 grams. Acute reference dose = MRL = 0.005 mg/kg/day	- There is not consensus in ATSDR about.acute exposure so this is probably not national ATSDR policy. -EPA did not plan to consider soil pica scenario until ATSDR issued an internal PHA that concluded urgent public health associated with soil pica. - There is limited biomonitoring data but it is from most highly contaminated yards. No arsenic exposure indicated. . - Health education will likely be EPA's response to risks associated with pica. Logic is to prevent the exposure by preventing the behavior. -EPA acute reference dose = 0.02 mg/kg/day -EPA RBA = 40%
Cal Gulch	Limited involvement.	- State has asked to reopen Arsenic action level dicussion as a result of VB-I70.

Documenting site-specific differences between EPA and ATSDR		
Globeville		State did medical monitoring for >1600 people over 9 years. No elevated As levels.
Eureka		Lead is the driver not arsenic.
Butte	ATSDR did an exposure investigation and found no elevated Pb or As in ~ 39 people.	12% bioavailability
Anaconda	CDC was involved at Mill Creek and found elevated AS (as high as 50 mg/L) in urine. ARCO did exposure investigation at ~600 households with EPA support.	
E. Helena		Lead is the driver not arsenic.
Clark Fork River	Bioavailability is different than that at Anaconda. ATSDR and EPA did joint exposure investigation. ATSDR has been extensively involved. They have changed their position.	Health education is important. Sampling needs to be accompanied by DQOs.

Documenting site-specific differences between EPA and ATSDR		
Basin	Concurred with EPA	
Stockton		
Murray	No pica behavior. No problem	the highest residential arsenic is 220 ppm.. There is no residential action level.

Non Site-specific differences between EPA and ATSDR

- Hot spot issues
- Risk based on pica child behavior
- Exposure area
- Communication and coordination (ATSDR doesn't do it very well)
- Engineering vs. Public Health responses

Communication (Development of Messages)

1. National dialogue between ATSDR and EPA is ongoing.

2. EPA is concerned about kids health.

3. EPA's risk assessments are always conservative. We set levels well below what we really expect the risk to be.

National Issues

National Work Group Status - There was a Dec. 2000 Seattle meeting of mid-level managers. The Discussion included acute exposure and ramifications of pica exposure scenario. They discussed designing investigation to study pica but two weeks ago ATSDR said they could not fund the study. EPA is looking into funding possibilities.

National Academy of Sciences - The Academy is trying to decide if they want to take on some research on Arsenic. Chris Weis and Bonnie LaVelle are putting together a briefing package which will contain portions of previous management briefings; excerpts from the VB-I70 risk assessment; Anaconda information; and bio-monitoring information.

Outstanding General Questions

1. How do acute exposure considerations get worked into management decisions?

2. What do we do next?